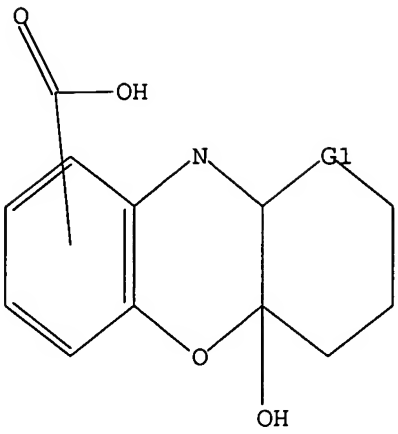


G1 CH2,O

Structure attributes must be viewed using STN Express query preparation.

```
=> s l1
SAMPLE SEARCH INITIATED 15:25:14 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -        2 TO ITERATE

100.0% PROCESSED         2 ITERATIONS                                1 ANSWERS
SEARCH TIME: 00.00.03

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:            2 TO      124
PROJECTED ANSWERS:               1 TO       80

L2             1 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 15:25:23 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -       10 TO ITERATE

100.0% PROCESSED        10 ITERATIONS                                3 ANSWERS
SEARCH TIME: 00.00.01

L3             3 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   161.33     161.54

FILE 'CAPLUS' ENTERED AT 15:25:34 ON 16 DEC 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
```

FILE COVERS 1907 - 16 Dec 2005 VOL 143 ISS 26
FILE LAST UPDATED: 15 Dec 2005 (20051215/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/infopolicy.html

=> s l3
L4 3 L3

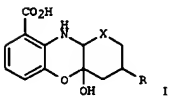
=> d ibib abs hitstr tot

own work

L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:737913 CAPLUS
DOCUMENT NUMBER: 139:229345
TITLE: Osteoclast differentiation inhibitors
INVENTOR(S): Kumagai, Hiroyuki; Sameshima, Tomohiro; Matsufuji, Motoko; Kawamura, Naoto; Isshiki, Kunio; Inoue, Hiroyuki; Someno, Tetsuya; Ishizuka, Masaaki; Takeuchi, Tomio
PATENT ASSIGNEE(S): Mercian Corporation, Japan; Zaidan Hojin Biseibutsu Kagaku Kenkyu Kai
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003076639	A1	20030918	WO 2003-JP2633	20030306
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1489187	A1	20041222	EP 2003-710258	20030306
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2005124050	A1	20050609	US 2003-506975	20030306
PRIORITY APPLN. INFO.:			JP 2002-63046 A	20020308
			WO 2003-JP2633 W	20030306

GI

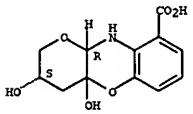


I

AB The osteoclast differentiation inhibitors (I: X = O or CH2; R = OH when X = O, and R = H when X = CH2) are manufactured with Cunninghamella and by chemical synthesis. Manufacture of F-1490 by culturing Cunninghamella, and chromatog.

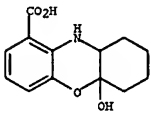
L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
isolation of F-1490 from fermn. filtrate were shown. Also shown was chem. synthesis of F-1490A from 3-hydroxyanthranilic acid and 1,2-cyclohexandione in the presence of sodium borohydride. The physiol. and morphol. characteristics of Cunninghamella and physicochem. characteristics of F-1490 were also given.
IT 581092-44-6P, Osteoclast differentiation inhibitor F-1490
RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(osteoclast differentiation inhibitors manufacture with Cunninghamella)
RN 581092-44-6 CAPLUS
CN Pyrano[3,2-b][1,4]benzoxazine-9-carboxylic acid, 2,3,4,4a,10,10a-hexahydro-3,4a-dihydroxy-, (3S,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 593253-87-3P, Osteoclast differentiation inhibitor F-1490A
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(osteoclast differentiation inhibitors manufacture with Cunninghamella)
RN 593253-87-3 CAPLUS
CN 1H-Phenoxazine-9-carboxylic acid, 2,3,4,4a,10,10a-hexahydro-4a-hydroxy- (9CI) (CA INDEX NAME)

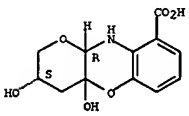
Currently available stereo shown.



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:280574 CAPLUS
DOCUMENT NUMBER: 139:270769
TITLE: ICM0201, a new inhibitor of osteoclastogenesis from Cunninghamella sp. F-1490. II. Structure determination and synthesis
AUTHOR(S): Someno, Tetsuya; Inoue, Hiroyuki; Kumagai, Hiroyuki; Ishizuka, Masaaki; Takeuchi, Tomio
CORPORATE SOURCE: Institute for Chemotherapy, H.C.R.F., Shizuoka, 410-0301, Japan
SOURCE: Journal of Antibiotics (2003), 56(3), 214-218
CODEN: JANTAJ; ISSN: 0021-8820
PUBLISHER: Japan Antibiotics Research Association
DOCUMENT TYPE: Journal
LANGUAGE: English
AB ICM0201 (1), a new inhibitor of murine osteoclastogenesis in culture was isolated from a fermentation broth of Cunninghamella sp. F-1490. The structure of ICM0201 was determined to be (3S,10aR)-3,4a-dihydroxy-2,3,4,4a-tetrahydro-2H-pyrano[3,2-b]benzo[e] morpholine-9-carboxylic acid by spectroscopic analyses and chemical studies. The structure of 1 is unique in that the tricycle ring system is composed of aminal and hemiacetal bonds.
IT 581092-44-6P, ICM 0201
RL: NPO (Natural product occurrence); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(osteoclastogenesis inhibitor ICM0201: isolation from Cunninghamella, structure determination and preparation)
RN 581092-44-6 CAPLUS
CN Pyrano[3,2-b][1,4]benzoxazine-9-carboxylic acid, 2,3,4,4a,10,10a-hexahydro-3,4a-dihydroxy-, (3S,10aR)- (9CI) (CA INDEX NAME)

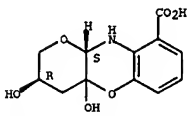
Absolute stereochemistry.



IT 607376-23-8P, (+)-ICM 0201
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(osteoclastogenesis inhibitor ICM0201: isolation from Cunninghamella, structure determination and preparation)
RN 607376-23-8 CAPLUS
CN Pyrano[3,2-b][1,4]benzoxazine-9-carboxylic acid, 2,3,4,4a,10,10a-hexahydro-3,4a-dihydroxy-, (3R,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

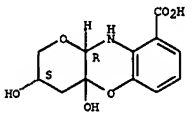
L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:280573 CAPLUS
DOCUMENT NUMBER: 139:173743
TITLE: ICM0201, a new inhibitor of osteoclastogenesis from Cunninghamella sp. F-1490. I. Taxonomy, fermentation, isolation and biological activities
AUTHOR(S): Inoue, Hiroyuki; Kumagai, Hiroyuki; Osono, Michiyo; Matsufuji, Motoko; Sameshima, Tomohiro; Kawamura, Naoto; Someno, Tetsuya; Ishizuka, Masaaki; Takeuchi, Tomio
CORPORATE SOURCE: Institute for Chemotherapy, M. C. R. F., Shizuoka, 410-0301, Japan
SOURCE: Journal of Antibiotics (2003), 56(3), 209-213
CODEN: JANTAJ; ISSN: 0021-8820
PUBLISHER: Japan Antibiotics Research Association
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In the course of screening for inhibitors of osteoclastogenesis, a new substance designated as ICM0201 was isolated from a fermentation broth of Cunninghamella sp. F-1490. ICM0201 inhibited the formation of osteoclasts in mouse bone marrow cells with an IC50 value of 0.78 μg/mL and showed weak cytotoxicity against bone marrow cells.
IT 581092-44-6P, ICM 0201
RL: ADV (Adverse effect, including toxicity); BPN (Biosynthetic preparation); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(ICM020 isolation from Cunninghamella, osteoclastogenesis inhibition, and cytotoxicity against tumor cell lines)
RN 581092-44-6 CAPLUS
CN Pyrano[3,2-b][1,4]benzoxazine-9-carboxylic acid, 2,3,4,4a,10,10a-hexahydro-3,4a-dihydroxy-, (3S,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT